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PTO/SB/21 (08-00)

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/770,997
Filing Date	January 25, 2001
First Named Inventor	Xinhui NIU and Nickhil JAKATDAR
Group Art Unit	2621
Examiner Name	To Be Assigned
Attorney Docket No.	509982000100
Total Number Of Pages In This Submission	6 W/23 REFS

ENCLOSURES (check all that apply)

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SIGNATURE OF APPLICANT, ATTORNEY OR AGENT

Firm or Individual Name	Peter J. Yim (Reg. No. 44,417) Morrison & Foerster LLP 425 Market Street San Francisco, California 94105-2482
Signature	
Date	April 9, 2002

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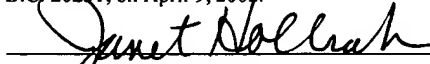
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PATENT
Docket No. 509982000100

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Janet Hollrah

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Xinhui NIU and Nickhil JAKATDAR

Serial No.: 09/770,997

Filing Date: January 25, 2001

For: CATCHING OF INTRA-LAYER
CALCULATIONS FOR RAPID
RIGOROUS COUPLED-WAVE
ANALYSES

Examiner: To Be Assigned

Group Art Unit: 2621

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INFORMATION DISCLOSURE
STATEMENT UNDER 37 C.F.R. § 1.97

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO-1449. Copies of the documents are also submitted herewith. The Examiner is requested to make these documents of record.

This Information Disclosure Statement is submitted:

- ☐ With the application; accordingly, no fee or separate requirements are required.
- ☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.
- ☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.
 - ☐ A fee is required. A check in the amount of * is enclosed.
 - ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
 - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly, no fee is believed to be due.
- ☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.
 - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a check in the amount of * is enclosed.
 - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

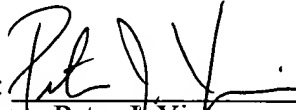
The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this

document to **Deposit Account No. 03-1952** referencing 509982000100. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: April 9, 2002

Respectfully submitted,

By: 

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Form PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)	Docket Number 509982000100	Application Number 09/770,997
	Applicant Xinhui NIU and Nickhil JAKATDAR	
	Filing Date January 25, 2001	Group Art Unit 2621
	Mailing Date April 9, 2002	

U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
	1.	7/21/92	5,131,752	Yu et al.			
	2.	11/17/92	5,164,790	McNeil et al.			
	3.	3/4/97	5,607,800	Ziger			
	4.	4/14/98	5,739,909	Blayo et al.			
	5.	11/10/98	5,835,225	Thakur			
	6.	2/2/99	5,867,276	McNeil et al.			
	7.	10/5/99	5,963,329	Conrad et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO

OTHER DOCUMENTS

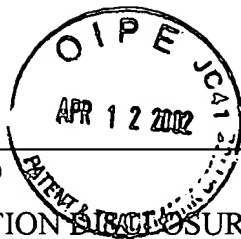
(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
	8.	N. W. Ashcroft et al., "Solid State Physics", Saunders College Philadelphia, 1976, pgs. 133-135.
	9.	R. M. A. Azzam et al., "Ellipsometry and Polarized Light", Elsevier Science B. V., 1987, book.
	10.	Ch. M. Bishop, "Neural Networks for Pattern Recognition", Ch. 4, 1995, pp. 117-161.
	11.	S. Bushman et al., "Scatterometry Measurements for Process Monitoring of Gate Etch", AEC/APC Workshop IX, Sematech, Sept. 20-24, 1997, pp. 148-158.
	12.	G. Granet et al., "Efficient implementation of the coupled-wave method for metallic lamellar in TM polarization", J. Opt. Soc. Am. vol. 13, no. 5, May 1996, pp. 1019-1023.
	13.	O. S. Heavens, "Optical Properties of Thin Solid Films", Dover Publications, Inc. 1955, book.
	14.	P. Lalanne et al., "Highly improved convergence of the coupled-wave method for TM polarization", J. Opt. Soc. Am. vol. 13, no. 4, April 1996, pp. 779-784.
	15.	L. Li et al., "Convergence of the coupled-wave method for metallic lamellar diffraction gratings", J. Opt. Soc. Am. vol. 10, no. 6, June 1993, pp. 1184-1189.

EXAMINER:

DATE CONSIDERED:

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16.	D. Maystre, "A new general integral theory for dielectric coated gratings", J. of Opt. Soc. of Amer. vol. 68 (4), Apr. 78, pp. 189-194.
17. ✓	M. G. Moharam et al., "Rigorous coupled-wave analysis of planar-grating diffraction", J. Opt. Soc. Am. vol. 71, no. 7/July 1981, pp. 811-818.
18. —	M. G. Moharam et al., "Formulation for stable and efficient implementation of the rigorous coupled-wave analysis of binary gratings", J. Opt. Soc. Am. vol. 12, no. 5, May 1995, pp. 1068-1076.
19. ✓	Moharam et al., "Stable implementation of the rigorous coupled-wave analysis for surface - relief gratings: enhanced transmittance matrix approach", J. Opt. Soc. Am. vol. 12, no. 5, May 1995, pp. 1077-1086.
20. ✓	M. Neviere et al., "Systematic Study of Resonances of Holographic Thin Film Couplers", Optics Com. vol. 9 (1), 1973, pp. 205-209.
21. ✓	A. R. Neureuther et al., "Numerical Methods for the Analysis of Scattering from Nonplanar Periodic Structures", URSI Symposium on Electromag. Waves, 1969, pp. 185-188.
22. ✓	W. H. Press et al., "Numerical Recipes in C", Art of Scien. Computing 2nd Ed., 1986, pp. 29-38.
23. ✓	J. A. Rice, "Mathematical Statistics and Data Analysis" sec. ed., ch. 14, Duxbury Press, 1995, pp. 507-570.

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